

COMPOSITING ACTIVITY DATA STANDARD

Standard No.: EX000008.1

January 6, 2006

Approved on January 6, 2006 by the
Exchange Network Leadership Council
for use on the Environmental
Information Exchange Network

Approved on January 6, 2006 by the
Chief Information Officer of the
U. S. Environmental Protection Agency
for use within U.S. EPA

This consensus standard was developed in collaboration by State, Tribal, and U. S. EPA representatives under the guidance of the Exchange Network Leadership Council and its predecessor organization, the Environmental Data Standards Council.

Foreword

The Environmental Data Standards Council identifies, prioritizes and pursues the creation of data standards for those areas where information exchange standards will provide the most value in achieving environmental results. The Council involves Tribes and Tribal Nations, state and federal agencies in the development of the standards and then provides the draft materials for general review. Business groups, non-governmental organizations, and other interested parties may then provide input and comment for Council consideration and standard finalization. Standards are available at <http://www.epa.gov/datastandards>.

1.0 INTRODUCTION

The Compositing Activity Data Standard describes data elements and data groupings that are used to exchange Compositing Activity data and information. This standard is only used in conjunction with Environmental Sampling, Analysis and Results (ESAR): Field Activity [EX000004.1] Data Standard and/or ESAR Analysis and Results [EX000005.1] Data Standard components.

1.1 Scope

This standard provides and describes data groupings that are used to catalogue and exchange compositing activity data. This standard is only used in conjunction with ESAR Field Activity and/or ESAR Analysis and Results Components.

1.2 Revision History

Date	Version	Description
January 6, 2006	EX000008.1	Initial Environmental Data Standards Council Adoption

1.3 References to Other Data Standards

This standard relies on other standards to make it complete and provide the necessary support. As such users should consider the references to other data standards noted below as integral to the Compositing Activity Data Standard. These include:

- Measure [EX000010.1] Data Standard
- Method [EX000011.1] Data Standard
- Representation of Date and Time [EX000013.1] Data Standard
- Contact Information [EX000019.2] Data Standard
- Field Activity [EX000004.1] Data Standard
- ESAR Analysis and Results [EX000005.1] Data Standard

1.4 Terms and Definitions

For the purposes of this document, the following terms and definitions apply. **Term**

Definition

Compositing The combining of several samples, subsamples, results, or units to produce a single entity.

1.5 Implementation

Users are encouraged to use the XML registry housed on the Exchange Network Web site to download schema components for the construction of XML schema flows (<http://www.exchangenetwork.net>)

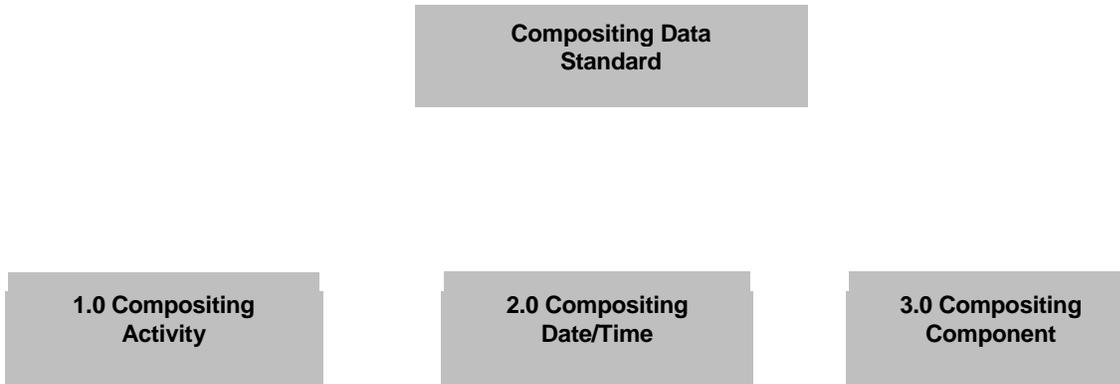
1.6 Document Structure

The structure of this document is briefly described below:

- a. Section 2.0 Compositing Activity Diagram, illustrates the principal data groupings contained within this standard.
- b. Section 3.0 Compositing Activity Data Standards Table, provides information on the high level, intermediate and elemental Compositing Activity data groupings. Where applicable, for each level of this data standard, a definition, XML tag, note(s), example list of values and format are provided. The format column may include the number of characters for the associated data element, where "A" specifies alphanumeric, "N" designates numeric, and "G" and "D" are used for grouping and date/time, respectively.
- c. Data Element Numbering: For purposes of clarity and to enhance understanding of data standard hierarchy and relationships, each data group is numerically classified from the primary to the elemental level.
- d. Code and Identifier Metadata: Metadata, defined here as data about data or data elements, includes their descriptions and/or any needed context setting information required to identify the origin, conditions of use, interpretation, or understanding the information being exchanged or transferred. (Adapted from ISO/IEC 2382-17:1999 Information Technology Vocabulary—Part 17: Databases 17.06.05 metadata). Based on the business need, additional metadata may be required to sufficiently describe an identifier or a code. A note regarding this additional metadata is included in the notes column for identifier and code elements. Additional metadata for identifiers may include:
 - Identifier Context, which identifies the source or data system that created or defined the identifierAdditional metadata for codes may include:
 - Code List Identifier, which is a standardized reference to the context or source of the set of codes
 - Code List Version Identifier, which identifies the particular version of the set of codes
 - Code List Version Agency Identifier, which identifies the agency responsible for maintaining the set of codes
 - Code List Name, which describes the corresponding name for which the code represents
- e. Appendix A, Compositing Activity Data Structure Diagram illustrates the hierarchical classification of the Compositing Activity data standard. This diagram enables business and technical users of this standard to quickly understand its general content and complexity. Appendix B, lists the references for the Compositing Data Standard.

2.0 COMPOSITING ACTIVITY DIAGRAM

This diagram specifies the major data groups that may be used to identify the characteristics and/or to catalog a compositing activity.



3.0 COMPOSITING ACTIVITY DATA STANDARD TABLE 1.0

Compositing Activity

Definition: The attributes related to the combining of several samples, subsamples, results, or units to produce a single entity.
 Relationship: None.
 Notes: XML None.
 Tag: CompositingActivity

Data Element Name	Data Element Definition	Notes	Format	XML tags
1.1 Laboratory Composite Identifier	A laboratory identifier for the composited entity.	For compositing done in the field, user should refer to data element "Sample ID" from the Field Activity [EX000004.1] Data Standard. <i>Note:</i> Based on the business need, additional metadata may be required to sufficiently describe an identifier. This additional metadata is described in the Introduction section 1.6.d.	A	LaboratoryCompositedIdentifier
1.2 Composite Contact	The name or code for the person to contact concerning information related to the composite.	<i>Note:</i> Refer to the Contact Information [EX000019.2] Data Standard. The following items may be needed: Individual Full Name Organization Formal Name Affiliation Type	A	CompositeContact
1.3 Composite Activity Type Name	Major type of activity used to achieve a composite.	Example List of Values: <ul style="list-style-type: none"> • Physical • Calculation • Mathematical Analysis • Statistical 	A	CompositeActivityTypeName
1.4 Compositing Activity Text	A description of the association among the composited components.	Example List of Values: <ul style="list-style-type: none"> • Sediment Trap Over Time • Inco Samples • 90% Lead and Copper • 5 Grab Soil Samples • 5-day Average 	A	CompositingActivityText
1.5 Compositing Location Name	The location where the compositing took place.	Example List of Values: <ul style="list-style-type: none"> • Field • Laboratory • Program 	A	CompositingLocationName

1.6 Composite Type Name	Information to determine relationship between the components of the composited entity.	<p>Example List of Values:</p> <ul style="list-style-type: none"> • Non-discrete Sample • Discrete Sample with Parents • Integrated Time Series • Integrated Vertical • Profile 	A	CompositeTypeNa me
1.7 Composite Method	Identifying information about the compositing method procedures.	<p><i>Note:</i> Refer to the Method [EX000011.1] Data Standard</p> <p>The following items are needed:</p> <ul style="list-style-type: none"> Method Identifier Method Name Method Description Text Method Deviation Method Reference 	A	CompositeMethod
1.8 Composite Component Count Text	Number of components included in the composite.	<p>Example List of Values:</p> <ul style="list-style-type: none"> • 5 Grab Samples • 8 Sub Samples 	A	CompositeCompo nentCountText

2.0 Compositing Date/Time

Definition: The date and time relating to the compositing event.
 Relationship: None.
 Notes: XML None.
 Tag: CompositingDateTime

Data Element Name	Data Element Definition	Notes	Format	XML tags
2.1 Laboratory Composite Start Date	The calendar date when the compositing was started in the laboratory.	Refer to the Representation of Date and Time [EX000013.1] Data Standard For compositing done in the field use data element "Sample Field Activity Start Date" from the ESAR Field Activity [EX000004.1] Data Standard .	D	LaboratoryCompositeStartDate
2.2 Laboratory Composite Start Time	The local time when compositing of the sample was started in the laboratory.	Refer to the Representation of Date and Time [EX000013.1] Data Standard For compositing done in the field use data element "Sample Field Activity Start Time" from the ESAR Field Activity [EX000004.1] Data Standard .	D	LaboratoryCompositeStartTime
2.3 Laboratory Composite End Date	The calendar date when compositing of the sample was finished in the laboratory.	Refer to the Representation of Date and Time [EX000013.1] Data Standard For compositing done in the field use data element "Sample Field Activity End Date" from the ESAR Field Activity [EX000004.1] Data Standard .	D	LaboratoryCompositeEndDate
2.4 Laboratory Composite End Time	The local time when compositing of the sample was finished in the laboratory.	Refer to the Representation of Date and Time [EX000013.1] Data Standard . For compositing done in the field, use data element "Sample Field Activity End Date" from the ESAR Field Activity [EX000004.1] Data Standard .	D	LaboratoryCompositeEndTime

2.5 Composite Frequency Text	Indicates the time frame over which components included in the composite are accumulated.	Example List of Values: <ul style="list-style-type: none">• Sample collected every 60 minutes for a 24 hour period.	A	CompositeFrequencyText
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Data Element Name	Data Element Definition	Notes	Format	XML tags
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3.0 Composite Component

Definition: Identifying information about the compositing component that is in the composite.

Relationship: None.

Notes: This component will repeat for each component in the composite.

XML Tag: CompositeComponent

2.5 Composite Frequency Text	Indicates the time frame over which components included in the composite are accumulated.	Example List of Values: <ul style="list-style-type: none"> Sample collected every 60 minutes for a 24 hour period. 	A	CompositeFrequencyText
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Data Element Name	Data Element Definition	Notes	Format	XML tags
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3.1 Composite Component Identifier	Identifies each discrete component of the composited entity to complete the relationships.	<i>Note:</i> Based on the business need, additional metadata may be required to sufficiently describe an identifier. This additional metadata is described in 1.6.d above.	A	CompositeComponentIdentifier
3.2 Composite Component Size Measure	Amount or size of each component included in the composite.	<i>Note:</i> Refer to the Measure [EX000010.1] Data Standard . The following items are needed: Measure Value Measure Unit Code Measure Precision Result Qualifier Code Result Qualifier Code Description	A	CompositeComponentSizeMeasure

Appendix A Compositing Activity Data Structure Diagram

Compositing Activity Data Standard

1.0 Compositing Activity

1.1 Laboratory Composite Identifier

1.2 Composite Contact 1.3

Composite Activity Type Name 1.4

Compositing Activity Text 1.5

Compositing Location Name 1.6

Composite Type Name 1.7

Composite Method 1.8 Composite

Component Count

Text

2.0 Compositing Date/Time

2.1 Laboratory Composite Start Date

2.2 Laboratory Composite Start Time

2.1 Laboratory Composite End Date

2.2 Laboratory Composite End Time

2.5 Composite Frequency Text

3.0 Composite Component

3.1 Composite Component Identifier

3.2 Composite Component Size

Measure

Appendix B

References

- i. ISO/IEC 2382-17:1999 Information Technology Vocabulary—Part 17: Databases 17.06.*